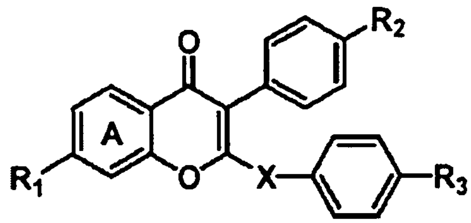
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A compound of formula A:

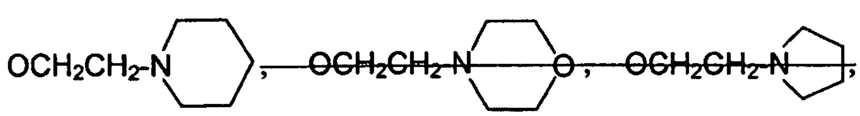


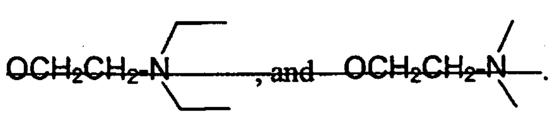
wherein

X is selected from the group consisting of O, N, S, SO, and SO_2;

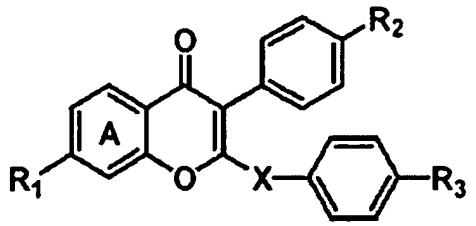
R_1 and R_2 can be the same or different and are selected from the group consisting of H, OH, OCH_3, OCH_2CH_3, $OCH_2C_6H_5$, NH_2, $NHCH_3$, $N(CH_3)_2$, CN, CH_3, CH_2CH_3, $CH_2CH_2CH_3$, $CH(CH_3)_2$, $C(CH_3)_3$, NO_2, F, Cl, Br, CF_3, SH, SCH_3, SCH_2CH_3, OCOCH3, $OCOC(CH_3)_3$, and $OCOCH_2COOH$;

R_3 is ~~selected from the group consisting of H, OH, OCH_3, OCH_2CH_3, NH_2, $NHCH_3$, $N(CH_3)_2$, NO_2, CN, CH_3, CH_2CH_3, $CH_2CH_2CH_3$, $CH(CH_3)_2$, $C(CH_3)_3$, F, Cl, Br, CF_3, SH, SCH_3, SCH_2CH_3,~~





Claim 2 (currently amended): ~~The compound of claim 1, wherein~~ A compound of formula A:



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wherein

X is selected from S, N, and O;

~~R_1 is selected from OH, OCH_3, and OC_6H_5;~~

~~R_2 is selected from H, OH, CH_3, and OCH_3; and~~

R_1 and R_2 can be the same or different and are selected from the group consisting of H, OH, OCH_3, OCH_2CH_3, $OCH_2C_6H_5$, NH_2, $NHCH_3$, $N(CH_3)_2$, CN, CH_3, CH_2CH_3, $CH_2CH_2CH_3$, $CH(CH_3)_2$, $C(CH_3)_3$, NO_2, F, Cl, Br, CF_3, SH, SCH_3, SCH_2CH_3, OCOCH3, $OCOC(CH_3)_3$, and $OCOCH_2COOH$; and

R_3 is ~~selected from OH and~~ 2-(1-piperidinyl)ethoxy.

Claim 3 (original): The compound of claim 2, wherein X is S, R_1 is OH, R_2 is OCH_3, and R_3 is 2-(1-piperidinyl)ethoxy.

Claims 4 and 5 (canceled)

Claim ~~6~~ 5 (original): The compound of claim 2, wherein X is S, R_1 is OC_6H_5, R_2 is OCH_3, and R_3 is 2-(1-piperidinyl)ethoxy.

Claim ~~7~~ 6 (original): The compound of claim 2, wherein X is O, R_1 is OC_6H_5, R_2 is OCH_3, and R_3 is 2-(1-piperidinyl)ethoxy.

Claim ~~8~~ 7 (original): The compound of claim 2, wherein X is O, R_1 is OH, R_2 is OCH_3, and R_3 is 2-(1-piperidinyl)ethoxy.

Claim 8 (original): A one-pot method for preparing a 2-(alkylthio)isoflavone comprising the steps of:

a. providing a mixture of a deoxybenzoin, carbon disulfide, alkyl halide, and tetrabutylammonium hydrogensulfate;

b. adding aqueous sodium hydroxide to the mixture while stirring;

c. reacting the mixture until the 2-(alkylthio)isoflavone is formed.

Claim 9 (original): The method of claim 8 wherein the mixture is allowed to stir for about 3 to about 7 hours after the addition of the sodium hydroxide.

Claim 10 (original): The method of claim 8 further comprising the step of separating the 2-(alkylthio)isoflavone from the reaction mixture.

Claim 11 (original): The method of claim 10 further comprising the step of purifying the 2-(alkylthio)isoflavone compound.

Claim 12 (original): A method of prepararing a 2-heterosubstituted 3-aryl-4H-benzopyran-4-one compound comprising the steps of:

a. selecting a 2-(alkylthio)isoflavone;

b. optionally protecting potentially reactive groups on the 2-(alkylthio)isoflavone;

c. oxidizing the alkylthio group to a alkylsyfonyl group; and

d. substituting the alkylsulfonyl group with a heteroalkyl or heteroaryl group to form the 2-heterosubstituted 3-aryl-4H-benzopyran-4-one compound.

Claim 13 (original): The method of claim 12 wherein the oxidation step is carried out using *m*CPBA in a polar aprotic solvent under reflux conditions.

Claim 14 (original): The method of claim 12 wherein the polar aprotic solvent is CH_2Cl_2.

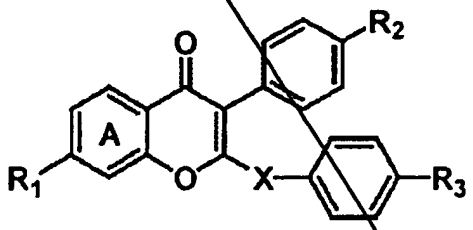
Claim ~~16~~ 15 (original): The method of claim ~~13~~ 12 wherein alkylsulfonyl group is substituted with a thioaryl group.

Claim ~~17~~ 16 (original): The method of claim ~~16~~ 15 further comprising the step of substituting the thioaryl group with an ethylpiperidinyl group to form a 4-[2-(1-piperidinyl)ethoxy]thiophenyl group at the 2-position of the 2-heterosubstituted 3-aryl-4H-benzopyran-4-one compound.

Claim ~~18~~ 17 (original): The method of claim ~~17~~ 16 further comprising the step of deprotecting the 2-heterosubstituted 3-aryl-4H-benzopyran-4-one.

Claim ~~19~~ 18 (original): The method of claim ~~13~~ 12 further comprising the step of deprotecting the 2-heterosubstituted 3-aryl-4H-benzopyran-4-one.

Claim 20 (currently amended): A method for treating, inhibiting, or delaying the onset of a cancer in a subject in need of such treatment; the method comprising administering a therapeutically effective amount of compound A:

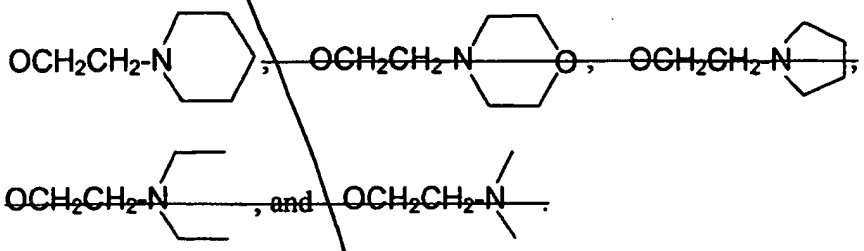


wherein

X is selected from the group consisting of O, N, S, SO, and SO_2;

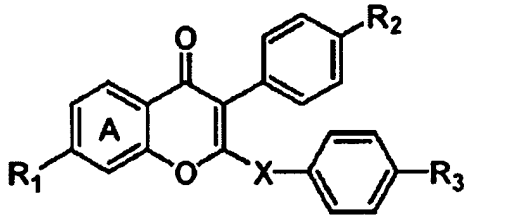
R_1 and R_2 can be the same or different and are selected from the group consisting of H, OH, OCH_3, OCH_2CH_3, $OCH_2C_6H_5$, NH_2, $NHCH_3$, $N(CH_3)_2$, CN, CH_3, CH_2CH_3, $CH_2CH_2CH_3$, $CH(CH_3)_2$, $C(CH_3)_3$, NO_2, F, Cl, Br, CF_3, SH, SCH_3, SCH_2CH_3, OCOCH3, $OCOC(CH_3)_3$, and $OCOCH_2COOH$; and

~~R_3 is selected from the group consisting of H, OH, OCH_3, OCH_2CH_3, NH_2, $NHCH_3$, $N(CH_3)_2$, NO_2, CN, CH_3, CH_2CH_3, $CH_2CH_2CH_3$, $CH(CH_3)_2$, $C(CH_3)_3$, F, Cl, Br, CF_3, SH, SCH_3, SCH_2CH_3,~~



to the subject in need of such treatment.

Claim 19 (currently amended): ~~The method of claim 20 wherein the cancer is breast cancer~~ A method for treating, inhibiting, or delaying the onset of a breast cancer in a subject in need of such treatment; the method comprising administering a therapeutically effective amount of compound A:



wherein

X is selected from the group consisting of O, N, S, SO, and SO_2;

R_1 and R_2 can be the same or different and are selected from the group consisting of H, OH, OCH_3, OCH_2CH_3, $OCH_2C_6H_5$, NH_2, $NHCH_3$, $N(CH_3)_2$, CN, CH_3, CH_2CH_3, $CH_2CH_2CH_3$, $CH(CH_3)_2$, $C(CH_3)_3$, NO_2, F, Cl, Br, CF_3, SH, SCH_3, SCH_2CH_3, OCOCH3, $OCOC(CH_3)_3$, and $OCOCH_2COOH$; and

R_3 is 2-(1-piperidinyl)ethoxy

to the subject in need of such treatment.

Claim ~~22~~ 20 (currently amended): The method of claim ~~20~~ 19 wherein the cancer is hormone-dependent breast cancer.

Claim 23 (canceled)

Claim ~~24~~ 4 (new): The compound of claim 2 wherein

X is selected from S and O;

R_1 is selected from OH, OCH_3, and OC_6H_5;

R_2 is selected from H, OH, CH_3, and OCH_3; and

R_3 is 2-(1-piperidinyl)ethoxy.